

What is Claimed Is:

1. A WDM optical system comprising:  
first and second WDM's;  
an optical link for transmit and receive signals for each WDM;  
each WDM including circuitry including a multiplexer and a demultiplexer;  
each WDM including a plurality of separate optical to electrical converters each at a separate wavelength removably mated with the circuitry;  
each WDM including a plurality of separate electrical to electrical converters, each mated with one of the optical to electrical converters, each electrical to electrical converter including input and output signal locations.
2. The WDM optical system of claim 1, further comprising splitter circuitry, wherein the optical link includes dual optical links, wherein two transmit and two receive signal pathways are provided.
3. The WDM optical system of claim 1, wherein the circuitry includes a backplane including two optical ports for removably connecting to the separate optical to electrical converters.
4. The WDM optical system of claim 1, wherein the electrical to electrical converter converts coaxial signals into a common format electrical signal.
5. The WDM optical system of claim 1, wherein the electrical to electrical converter converts twisted pair signals into a common format electrical signal.
6. The WDM optical system of claim 1, wherein the electrical to electrical converter converts optical signals into a common format electrical signal.
7. A WDM chassis comprising:

a backplane including an input power port, a control signal port, and a plurality of optical interface ports for interfacing with an optical to electrical conversion card, each optical interface port including a power port, a control signal port, and at least one optical port;

a plurality of optical to electrical cards each including a backplane interface portion for mating with the optical interface port and including a power port, a control signal port, and at least one optical port, each optical to electrical card including optical to electrical conversion circuitry for converting between common format signals and optical signals, each optical to electrical card including an electrical interface port including a power port, a control signal port, and at least one electrical port;

a plurality of electrical to electrical cards each including a rear interface portion for mating with the electrical interface port and including a power port, a control signal port, and at least one electrical port, each electrical to electrical card including electrical to electrical conversion circuitry for converting between native protocol media signals and common format signals, each electrical to electrical card including a media interface port including at least one main signal port.

8. The WDM chassis of claim 7, wherein the at least one main signal port is a coaxial port.

9. The WDM chassis of claim 7, wherein the at least one main signal port is a twisted pair port.

10. The WDM chassis of claim 7, wherein the at least one main signal port is an optical port.

11. The WDM chassis of claim 7, wherein the backplane defines a first plane, and the optical to electrical cards each define a second plane transverse to the first plane.

12. The WDM chassis of claim 11, wherein the electrical to electrical cards each define a third plane parallel to the second plane.

13. The WDM chassis of claim 12, further comprising a chassis housing wherein the backplane defines a rear of the chassis housing, wherein the optical to electrical cards and the electrical to electrical cards are received in a front opening of the chassis housing.

14. A WDM optical system comprising:

a first WDM including a chassis and circuitry including a multiplexer;

a second WDM including a chassis and circuitry including a demultiplexer;

an optical link for transmitting multiplexed optical signals from the first WDM for receipt by the second WDM;

each WDM including a plurality of separate optical to electrical converter cards received by each chassis, each optical to electrical converter card at a separate wavelength and removably mated with the circuitry;

each WDM including a plurality of separate main signal to electrical converter cards received by each chassis, each main signal to electrical converter card mated with one of the optical to electrical converter cards, each main signal to electrical converter card including a main signal port.

15. The WDM optical system of claim 14, wherein the main signal to electrical converter cards convert between one of coaxial, twisted pair, and optical signals, and an NRZI format signal, wherein the optical to electrical converter cards convert between the NRZI format and optical signals at one of a selected wavelength

for respective multiplexing and demultiplexing by the respective multiplexer and demultiplexer of the first and second WDM's.

16. A method of optical system management comprising:

providing multiplexing and demultiplexing circuitry for a multi-channel signal system;

mating a plurality of optical to electrical converter cards to the circuitry, each optical to electrical converter card selected to transmit and receive optical signals at a distinct wavelength of light relative to the other optical to electrical converter cards of the multi-channel system;

mating an electrical to electrical converter card to a selected one of the optical to electrical converter cards, wherein the electrical to electrical converter card transmits and receives native protocol media signals in a first format, and converts the signals to a second electrical format, wherein the signals of the second electrical format are converted to optical signals at the distinct wavelength of light of the selected optical to electrical converter card.

17. The method of claim 16, wherein the electrical to electrical converter card transmits and receives a coaxial native protocol media signal.

18. The method of claim 16, wherein the electrical to electrical converter card transmits and receives a twisted pair native protocol media signal.

19. The method of claim 16, wherein the electrical to electrical converter card transmits and receives an optical native protocol media signal.